HTML Notes

How HTML is structured

HTML consists of standard <u>ASCI</u> (American Standard Character Interchange) text surrounded by html <u>tags</u>. Tags are instructions which tell a web browser how to display a document. HTML tags are enclosed within < and > symbols so your editor knows that anything within those symbols needs to be interpreted as an instruction rather than being displayed as text. HTML files are saved with an .html or .htm extension.

Paired tags

Most HTML tags are paired, meaning that they have a tag to indicate the beginning of a command and another tag, with a forward slash (/) inside it, to indicate where that command should end.
E.g. HTML documents begin with

`<HTML>`

to indicate the beginning of the document and finish with

`</HTML>`

to indicate the end of the document.

Tag attributes

Many HTML tags contain one or more attributes that can give extra information to tell the browser how to interpret the tag. In most tags, the attributes are optional.
E.g. `<P ALIGN="center">`
When a tag is using attributes, the name of the tag is written first, followed by a space. Then the name of the attribute and an equal sign. Next is the attribute itself enclosed in quotation marks. Single quotes can be used but double quotes are more common. Most browsers will accept attributes without quotation marks but it is best to include them as in the example below.

`<TAG ATTRIBUTE1="value1" ATTRIBUTE2="value2"> </TAG>`

It doesn't matter if you use upper case tags `<HTML>` or lower case tags `<html>`. It is, however, a good idea to be consistent.

Sections of an HTML Document

An html document is divided into two main sections – the <u>head</u> section and the <u>body</u> section. The head section contains information about the document. This is usually placed at the top of the html document (so it can load into the browser first) and won't be displayed inside your browser window. The body section contains the content of your document that will be displayed, such as text and images.

Page attributes

There are several different elements that may be included within the <HEAD> section of your document. The most important is the title of your document, which is specified by the <TITLE> tag. The title tag can be used to identify your site and will also be used to provide the text that will display in your browser's title bar.

E.g.

<TITLE>Steve's Home Page</TITLE>

Would show in the title bar as

Steve's Home Page - Microsoft Internet Explorer

The body section

The content of your page needs to be between the <BODY> and </BODY> tags. It is important to make sure the content of your page is in the body section since anything before the <BODY> tag and after the </BODY> tag often won't appear in the web browser. The body tag is an example of a tag that can have attributes. Some of the attributes that can be set for the body tag are:

Attribute	Description	HTML
Background colour	Sets the background colour for the document	BGCOLOR
Text colour	Sets the colour for text on the page	TEXT
Hyperlink colour	Sets the colour for hyperlink text	LINK
Visited link colour	Sets the colour for links that have been followed	VLINK
Active link colour	Sets the colour for links that are active (when they're clicked)	ALINK
Background graphic	Specifies what graphic file will be used as the background	BACKGROUND

E.g.

<BODY BGCOLOR="white" TEXT="black" LINK="blue" VLINK="purple" ALINK="red" BACKGROUND="back.gif">

</BODY>

This would give you the following
White background with a graphic file called "back.gif" tiled across the page.
Black text. Blue hyperlink text. Followed links will be purple and active links will be red.
Notice that a background colour has been specified even though the background graphic will cover it. There is a good reason for that. A lot of websites are designed with light coloured text on a dark background like this If the page's background graphic doesn't load for some reason, the text on the page can become very difficult to read, like the text in the paragraph below, unless you have also specified a dark background colour

The point to remember is to specify a background colour that is fairly similar to your background graphic. Of course it's also common sense to make sure that any background graphics you use aren't too colourful or it may be too hard to read text on it.

Paragraphs & line breaks

A web browser won't recognise line breaks unless we specify them. It also won't recognise more than one blank space so that if you typed;

Big   space

It would appear in your web browser as

Big space.

We specify line breaks with the paragraph and line break tags.
The Paragraph tag <P> </P> will create a new paragraph and will usually create a little blank space before and after the paragraph. It usually works without the closing tag but it is best to get in the habit of using a closing tag.

A division tag <DIV> </DIV> can also be used to create a new paragraph. The difference is that it doesn't create a blank space before the paragraph the way a <P> tag will. A division tag may also be used to group sections of a page for use with styles. The division tag does require the closing tag or it won't work
The <P> and <DIV> tags are both referred to as Block Tags, since they can both create a block of text on the page.
The break tag <BR> inserts a line break in a paragraph without beginning a new paragraph and doesn't require a closing tag.

Headings

HTML was originally intended to define the structure of a document, and headings are useful for this purpose. There are 6 heading levels in html with 1 being the largest so that the most important heading should use a <H1> tag; subheadings should use <H2> tags etc. The exact sizes they appear as will vary from one browser to another. Here is an example of how they may look. You should use headings to logically define sections of your document under headings and sub-headings. Since headings are a type of block tag, it is not necessary to begin a heading with a <P> tag. The heading tag takes the place of a paragraph tag when headings are being used.

<H1>Level 1 heading</H1>

<H2>Level 2 heading</H2>

<H3>Level 3 heading</H3>

<H4>Level 4 heading</H4>

<H5>Level 5 heading</H5>

<H6>Level 6 heading</H6>

Horizontal rules

A horizontal <HR> rule may be used to place a dividing line in your document and is a good way to separate different sections. It will usually appear as 3D style engraved line.

Some of the attributes that can be included in a <HR> tag are:
WIDTH Can be specified in pixels or percentage of page width <HR WIDTH="150"> or <HR WIDTH="80%">
ALIGN Specifies if the line will be aligned to the left, center (use US spelling) or right <HR ALIGN="center">
SIZE Specifies the height (thickness) of the line in pixels <HR SIZE="5">

Pre-formatting

We have learnt that your web browser won't recognise line breaks and spaces unless you specify them with html. The only exception is when you've used a PRE tag. The PRE tag will display your text in a fixed width font just as you typed it so

<PRE> First Line

        S e c o n d L i n e </PRE>

Would display in your web browser as

First Line

   S e c o n d L i n e

Aligning text

There are several ways of aligning text within html. By default, text will be left aligned.
Any tag that creates a block of text is referred to as a block tag. <H1>, <P> and <DIV> are all examples of block tags. Each of these tags can use an ALIGN attribute to align the contents of the block of text. With this method you can align a block of text to the centre, left or right. Some examples are shown below.

<P ALIGN="center">All of this text would be aligned to the centre of the page</P>

<H2 ALIGN="right">This text would appear as a level 2 heading aligned to the right</H2>

<DIV ALIGN="center">This text would appear in the centre of the page</DIV>

Note that it is not necessary to include the ALIGN attribute in the closing tag. When you close a tag you also close all of its attributes.

Special Characters

Many characters (such as < > & ") are used by your browser to represent html tags. So what if you want one of these special characters to actually display in your web page? You can use certain codes in your html to represent these characters.
Similar codes may also be used to show characters (such as © ® ¶ ™) that can't be typed normally. Below is a list of some of the more common codes and how they will appear in your browser. Most HTML editors allow you to easily insert special character codes from a menu without the need for typing them. However for characters you need frequently, it can be just as easy to simply type them as you go.

non-breaking (blank) space	" " (quotation mark)
& & (ampersand)	© © (copyright logo)
< < (less than symbol)	> > (greater than symbol)
® ® (registered symbol)	™ ™ (trade mark symbol)
½ ½ (half fraction)	¶ ¶ (paragraph symbol)

Some Common Formatting Tags

Now we will go through some of the tags that may be used to format text. Remember that some older browsers may not support some of these tags.

Bold

<B> </B>

Physical tag that will display text as **bold**

<STRONG> </STRONG>

Logical tag typically displayed as **bold**

Italic

<I> </I>

Physical tag that will display text in *italics*

<EM> </EM>

Logical tag that will emphasise text, typically displayed in *italics*

The font tag

One of the most commonly used formatting tags in standard html is the <FONT> tag. With its various properties it allows you to specify several types of formatting at once. These are some of the properties that can be set in the font tag:

- **SIZE** specifies the size where 1=smallest and 7=largest. Size 2 or 3 will usually be close to normal text size. The exact size may vary from one browser to another.
- **COLOR** specifies the colour of the text (NOTE: you need to use US spelling).
- **FACE** specifies the font (such as Arial) that will be used. You can specify an alternate font in case the person viewing your site doesn't have the one you specified. Simply type the name of each font separated by commas. If the first font isn't available the next will be used. If none are available, the default system font will be used.

Here is an example of a font tag.
<FONT SIZE=2 COLOR="red" FACE="Comic Sans MS, Arial">Sample text</FONT>
Result - Sample Text

Lists

Bullet lists

Bulleted lists (unordered lists) are a list of items that begin and end with the UL tag. Each item in the list begins with an LI (list item) tag. A close LI tag is optional. An unordered list will typically take the form of several items with a • at the beginning of each line. If nested lists are used (lists inside lists) then different symbols may be used for the nested lists. E.g.

- Item 1
- Item 2
- Item a
- Item b
- Item 3

You may change the symbol used in the list by adding a TYPE attribute to either the LI or UL tag. Adding the attribute to the UL tag is usually better since that will effect the whole list rather than just one list item.
I.e.

• with <UL TYPE=disc> this is the default option

☺ with <UL TYPE =square>

☺ with <UL TYPE =circle>

Number lists

Numbered lists (ordered lists) are similar to bulleted lists. They are used to display a list with items numbered. With an ordered list the OL tag is used. List items use the LI tag just as list items in a bulleted list.
Like bulleted lists, you can use the TYPE attribute to change the symbol used for each list item.
I.e.
```
1 with <OL TYPE=1> (1,2,3..) this is the default option
a with <OL TYPE=a> (a,b,c..)
A with <OL TYPE=A> (A,B,C..)
i with <OL TYPE=i> (i,ii,ii..)
I with <OL TYPE=I> (I,II,III..)
```
E.g.

This html	Produces this list
<OL TYPE=A>	
<LI> Item 1 <LI>	A Item 1
Item 2 <LI>	B Item 2
Item 3 </OL>	C Item 3

One of the greatest strengths of **H**yper**t**ext **M**arkup **L**anguage is hypertext – the ability to link documents together. The World Wide Web itself consists of millions of html documents all linked together via hypertext. A good web site designer should be able to use hyperlinks to make it easy for visitors to not only move around their site easily, but to also get to related sites. The key is to enable people to get to what they want as quickly and easily as possible. Hyperlinks are defined in html using the <A> (anchor tag) and must always have a start and end tag.

The Anchor Tag

Hyperlinks

The most common use for the anchor tag is to provide a link to another document. This is done using an anchor tag with a hyperlink reference attribute, as shown below.

```
<A HREF="filename.html">text for the link</A>
```

E.g. If you wanted the text <u>see our product list</u> to be used as a link to a document called product.html you would do this with the following line of html:

```
<A HREF="product.html">see our product list</A>
```

Most browsers display hyperlink text (the text between the closing and ending A tag) as underlined text displayed in the colour specified in the document's BODY tag. Moving the mouse pointer over a hyperlink will change the shape of the pointer to a pointing hand. Clicking the text will make the browser load the document the link points to.

Bookmark links

It is often useful to link to a different part of the same document or to link to a specific location on a different document. It is especially useful to do this when you want an index at the top of a long document so people can skip to different parts in the document.

Eg. Take a look at the news items page on the left. There are headings for each month on this long page and a user might want to go to a certain month such as April without having to scroll through the whole page.

This can be done using the NAME attribute of the anchor tag. Firstly you need to specify the destination for the link. You would do this by going to the April heading and putting in the following HTML.

```
E.g. <A NAME="april"></A>
```

It is not essential to have any text inside the A tag although in this instance you could put the tag around the text in the April heading.

```
E.g. <H2><A NAME="april">April</A></H2>
```

You can then link to it by using a regular anchor tag, with the link name, following a #, as the link location.

```
E.g. <A HREF="#april">See the news for April</A>
```

Note that the names you give each location are case sensitive. I.e. uppercase and lowercase letters <u>do</u> make a difference.

The Image Tag

It is rare these days to find a website without pictures being used in some form. Images are inserted in html with the IMG tag. Since the tag is specifying the point where the image will appear, there is no close tag to indicate the end of the image. The most basic image tag will specify the name (source – SRC) of the image file to be inserted. Like hyperlinks, this file reference may be relative or absolute.

E.g. `<IMG SRC="picture.gif">`

Images are commonly used as hyperlinks instead of text. A picture is worth a thousand words so a picture can often indicate the purpose of a link better than a word. Using images can also make it possible to use an image showing special text effects (such as shadows) that are impossible with html text.

To make a picture into a link, you insert your image tag inside your anchor tag.

E.g. `<A HREF="link.html"><IMG SRC="picture.gif"></A>`

There are quite a few attributes that an image tag can have. These are outlined below.

Image tag attributes

HEIGHT
WIDTH
	These two attributes specify the size of the image in pixels. If they are not included, the image will display at its normal size. It is usually a good idea to include these attributes for two reasons.
	      1 The browser can load the picture quicker when it already knows its exact size.
	      2 The browser will make room for the loading picture rather than shifting everything down the page as each image loads.

HSPACE VSPACE	These attributes specify the amount of horizontal and vertical space around the picture in pixel measurements.
ALT	Specifies the text that will display while the picture is loading or if it doesn't load. If the picture's important, make sure you include this. Some people don't have browsers that show images and some turn image loading off to speed up their browsing. Recent browsers use the alternate text as a pop-up when the mouse is moved over the image.
BORDER	Specifies the width (in pixels) of the picture's border. Set this to 0 if the picture is a hyper-link; otherwise a border the colour of your links will appear around the image.
ALIGN	TOP

Aligns the top of the picture with the top of the current line of text

MIDDLE   Aligns the middle of the picture with the middle of the current line of text

BOTTOM   Aligns the bottom of the picture with the bottom of the current line of text

LEFT   Aligns the picture to the left of text and will make text wrap around the picture

RIGHT   Aligns the picture to the right of text and will make text wrap around the picture

E.g.

```
<IMG SRC="picture.gif" ALT="Photo" HEIGHT="50" WIDTH="50" BORDER="0" ALIGN="left">
```

Image types

There are two image formats commonly used throughout the Internet. These are GIF (Graphical Interchange Format) and JPEG (Joint Photographic Experts Group). The reason they are both so widely used is because they are both formats that can compress an image's file size without too much loss in image quality. These smaller file sizes make them ideal for use on the Internet.

GIF Images

Developed by CompuServe.
File extension - .gif

JPEG Images

Joint Photographic Expert Group
Developed by the group the format was named after.
File extension - .jpg .jpeg or .jpe

Tips for Using Graphics in Websites

- Remember that graphics may look different on different screen sizes.
- Don't make the picture any bigger than you absolutely have to.
- Re-size graphics in a graphics program instead of doing it in the web page.
- Provide alternate text for the image (Use the *ALT* attribute in the image tag).
- Save pictures in the right place. Usually best to save them in the same folder as your website files.
- Make filenames descriptive.
- Avoid spaces in filenames. Use an underscore "_" instead.
- Keep filenames lowercase. Avoid capital letters.

Tables in HTML are intended to be used in much the same way that you'd use a table in a word-processor. ie. to layout text or graphics in an organised tabular format in your HTML document.

Table Tag

HTML tables always begin and end with a table tag. E.g.

`<TABLE> </TABLE>`

The table tag itself may include certain attributes that control how the whole table will appear. These attributes are listed below:

ALIGN=	This specifies the horizontal alignment of the table. The possible values are left, center and right, with left being the default. The alignment attribute is sometimes left out in favour of aligning the table by enclosing it in a `<DIV>` or `<CENTER>` tag but using the ALIGN attribute is preferable.
BGCOLOR=	Sets the background colour for the table, using either a colour name (eg black), or by using a hexadecimal colour code (eg #FF00FF). Introduced with Netscape Navigator version 3, older browsers will ignore this attribute.
BORDER=	Controls the thickness of the line around the table and its cells. Setting this attribute to 0 can hide the border. Most browsers will default to a border width of 0, though some older browsers will default to a thin border appearing. Borders will not appear around empty cells unless there is a non-breaking space (blank space) in the cell. I.e.
CELLPADDING=	The amount of blank space between the cell contents and the edge of the cell.
CELLSPACING=	The amount of blank space between cells in the table. In most word-processor or desktop publishing programs, table cells share borders with their neighbours. In HTML they are each separated by a small space.
WIDTH=	The width of the table can be specified by stating the number of pixels (eg 500 pixels wide) or by specifying how much of the available space will be taken up by the table (eg 80%)

An example of a table tag with attributes:

```
<TABLE ALIGN="left" BGCOLOR="yellow" BORDER="0" CELLPADDING="1" CELLSPACING="2"
WIDTH="80%">
```

In this instance, our table will be aligned to the left, it will have a background colour of yellow, it will have no visible border, it will have a small amount of blank space between each cell, a small amount of blank space around the outside of each cell and it will take up 80% of the available width.

Within the table itself there are 3 sections. The table caption, the table rows and the table cells.
The caption tag, usually placed after the opening table tag, provides a caption to be displayed above or below the table. It is not commonly used and is often left out. The only attribute of the caption tag is ALIGN= which determines if the caption will be displayed at the "top" or "bottom" of the table. Eg

Caption Tag

```
<CAPTION ALIGN="top">Type the table's caption here</CAPTION>
```

Table Row Tag

Rows are defined using the table row <TR> tag. The closing </TR> tag may be omitted since a new <TD> tag implies that the previous row has ended, though it is usually included. It has two attributes:

ALIGN=   Sets the default horizontal alignment for contents of the cells within the row (left, center or right)

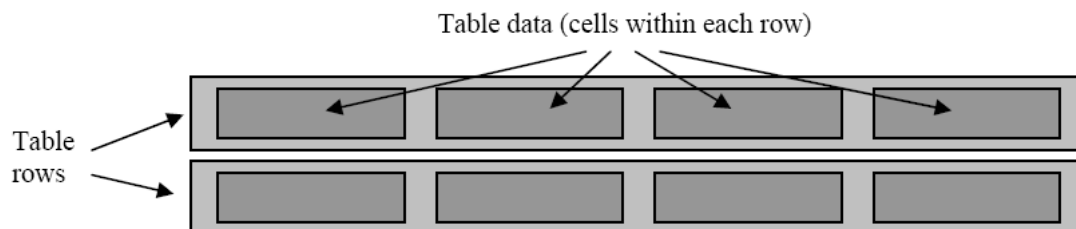VALIGN=   Sets the default vertical alignment for contents of the cells in the row (top, middle or bottom)

Table data (cells within each row)

Table rows

Table Data Tag

Within each row, the cells need to be specified with the table data <TD> tag. Like the table row tag, the closing tag for table data can be left off. The following attributes may be used:

ALIGN=   Sets the horizontal alignment for the contents of the cell (left, center or right). Left is the default.

BGCOLOR=   Sets the colour of the cell's background (overrides the table background colour)

COLSPAN=   Makes the cell span the specified number of columns. This is similar to merging the cell with the cells to the right. Eg COLSPAN=3 means that this cell will be merged with the next 2 cells. You won't need to put in <TD> tags for the merged cells.

HEIGHT=   Specifies the height (in pixels) for the cell. Other cells in the same row will use the same height. Be careful not to specify different heights for different cells in the same row.

NOWRAP   Prevents the text in a cell from wrapping on to a new line when there is insufficient space.

ROWSPAN=   Merges the cell with the cells below with the value representing the number of rows spanned. Similar to the COLSPAN attribute.

VALIGN=   Sets the vertical alignment for the contents of the cell (top, middle or bottom). Middle is the default.

WIDTH=   Sets the width of the cell in pixels or % of the table's width. Other cells in the same column will take on the same width. Be careful not to specify different widths for different cells in the same column. It is also a bad idea to have a row of cells with widths that add up to a different amount than the table width. A good idea is to leave the width for the last cell blank so it can use whatever space is leftover from the width specified in the <TABLE> tag.

HTML – Hexadecimal color chart[1]

000000	000033	000066	000099	0000CC	0000FF
003300	003333	003366	003399	0033CC	0033FF
006600	006633	006666	006699	0066CC	0066FF
009900	009933	009966	009999	0099CC	0099FF
00CC00	00CC33	00CC66	00CC99	00CCCC	00CCFF
00FF00	00FF33	00FF66	00FF99	00FFCC	00FFFF
330000	330033	330066	330099	3300CC	3300FF
333300	333333	333366	333399	3333CC	3333FF
336600	336633	336666	336699	3366CC	3366FF
339900	339933	339966	339999	3399CC	3399FF
33CC00	33CC33	33CC66	33CC99	33CCCC	33CCFF
33FF00	33FF33	33FF66	33FF99	33FFCC	33FFFF
660000	660033	660066	660099	6600CC	6600FF
663300	663333	663366	663399	6633CC	6633FF
666600	666633	666666	666699	6666CC	6666FF
669900	669933	669966	669999	6699CC	6699FF
66CC00	66CC33	66CC66	66CC99	66CCCC	66CCFF
66FF00	66FF33	66FF66	66FF99	66FFCC	66FFFF
990000	990033	990066	990099	9900CC	9900FF
993300	993333	993366	993399	9933CC	9933FF
996600	996633	996666	996699	9966CC	9966FF
999900	999933	999966	999999	9999CC	9999FF
99CC00	99CC33	99CC66	99CC99	99CCCC	99CCFF
99FF00	99FF33	99FF66	99FF99	99FFCC	99FFFF
CC0000	CC0033	CC0066	CC0099	CC00CC	CC00FF
CC3300	CC3333	CC3366	CC3399	CC33CC	CC33FF
CC6600	CC6633	CC6666	CC6699	CC66CC	CC66FF
CC9900	CC9933	CC9966	CC9999	CC99CC	CC99FF
CCCC00	CCCC33	CCCC66	CCCC99	CCCCCC	CCCCFF
CCFF00	CCFF33	CCFF66	CCFF99	CCFFCC	CCFFFF
FF0000	FF0033	FF0066	FF0099	FF00CC	FF00FF
FF3300	FF3333	FF3366	FF3399	FF33CC	FF33FF
FF6600	FF6633	FF6666	FF6699	FF66CC	FF66FF
FF9900	FF9933	FF9966	FF9999	FF99CC	FF99FF
FFCC00	FFCC33	FFCC66	FFCC99	FFCCCC	FFCCFF
FFFF00	FFFF33	FFFF66	FFFF99	FFFFCC	FFFFFF

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[1] http://www.immigration-usa.com/html_colors.html